

LISTING OF CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Claim 1 (Currently Amended):

A method of loading a driver in a host

coupled to an interconnection fabric including one or more fabric-attached I/O enclosures, comprising:

providing a host, a fabric, and an I/O enclosure;

assigning an I/O controller that is within the an I/O enclosure to the host;

before loading a driver for the I/O controller into the host, sending a verification message to the I/O enclosure, via the interconnection fabric, to determine whether a communication channel path exists for the driver to be loaded to the I/O controller within the I/O enclosure; and

if the I/O enclosure responds to the verification message, then loading the driver into the host.

Claim 2 (Currently Amended):

The method as claimed in claim 1,

further comprising:

alternatively, before loading the driver for the I/O controller into the host, determining whether a channel host-fabric adapter in the host has been initialized and connected to the interconnection fabric; and

if the host-fabric adapter in the host has been initialized and connected to the interconnection fabric, then loading the driver into the host.

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Claim 3 (Currently Amended): The method ~~of~~as claimed in claim 1,
further comprising:
before assigning the I/O controller within the I/O enclosure to the host,
determining whether a forwarding table in a ~~switch~~ in the interconnection fabric has
been initialized; and
if the forwarding table in the interconnection fabric has been initialized,
assigning the I/O controller within the I/O enclosure to the host.

Claim 4 (Currently Amended): The method ~~of~~as claimed in claim 1,
further comprising:
determining whether a ~~channel~~remote fabric adapter in the I/O enclosure has
been initialized; and
if the remote fabric adapter in the I/O enclosure has been initialized,
determining whether the communication path exists to the I/O controller within the
I/O enclosure.

Claim 5 (Currently Amended): The method ~~of~~as claimed in claim 1,
further comprising:
initializing ~~channel~~fabric adapters and forwarding tables before determining
whether the communication path exists to the I/O controller within the I/O enclosure.

Claim 6 (Currently Amended): A method of loading a driver in a host

coupled to an interconnection fabric including different hosts and I/O enclosures,

comprising:

~~providing a plurality of hosts, a fabric, and a plurality of I/O enclosures;~~

~~assigning a plurality of I/O controllers that are within the plurality of I/O enclosures to the plurality of hosts;~~

~~determining a list of drivers that correspond to the plurality of I/O controllers to be loaded into the plurality of hosts;~~

~~before loading the drivers into the plurality of hosts, for each driver, sending a verification message to the I/O controller that corresponds to the driver; and~~

~~modifying the list of drivers if a response to any of the verification messages has been received.~~

Claim 7 (Currently Amended):

The method ~~of~~ as claimed in claim 6,

further comprising:

receiving an interrupt before modifying the list of drivers.

Claim 8 (Currently Amended):

The method ~~of~~ as claimed in claim 6,

further comprising:

determining the list of drivers, at least in part, by sending a message to a subnet manager to request a list of I/O controllers assigned to a host.

Claim 9 (Currently Amended):

The method ~~of~~ as claimed in claim 6,

further comprising:

A1
determining the list of drivers, at least in part, by scanning the fabric for I/O controllers.

Claim 10 (Currently Amended): The method ~~of~~ as claimed in claim 6, further comprising:
obtaining the list of drivers from a storage.

Claim 11 (Currently Amended): The method ~~of~~ as claimed in claim 6, wherein:
receipt of the response confirms that a subnet manager has finished initializing a local channel adapter port, a remote channel adapter port, and forwarding tables in intervening switches within the interconnection fabric that will be used in communication between a driver to be loaded and the I/O controller that corresponds to the driver.

Claim 12 (Currently Amended): The method ~~of~~ as claimed in claim 6, further comprising:
notifying a fabric control driver when local channel adapter ports in a host are configured and ready for fabric connectivity.

Claim 13 (Currently Amended): A computer readable medium having stored thereon instructions which, when executed by a processor, cause the processor to perform a method for loading a driver in a host, said method

comprising:

installing a plurality of hosts, a fabric, and a plurality of I/O enclosures;

assigning a plurality of I/O controllers that are within the plurality of I/O enclosures to the plurality of hosts;

determining a list of drivers that correspond to the plurality of I/O controllers to be loaded into the plurality of hosts;

before loading the drivers into the plurality of hosts, for each driver, sending a verification message to the I/O controller that corresponds to the driver; and

modifying the list of drivers if a response to any of the verification messages has been received.

Claim 14 (Currently Amended): The computer readable medium ~~of~~ as claimed in claim 13, ~~wherein said method further comprising:~~
receiving an interrupt before modifying the list of drivers.

Claim 15 (Currently Amended): The computer readable medium ~~of~~ as claimed in claim 13, ~~wherein said method further comprising:~~
determining the list of drivers, at least in part, by sending a message to a subnet manager to request a list of I/O controllers assigned to a host.

Claim 16 (Currently Amended): The computer readable medium ~~of~~ as claimed in claim 13, ~~wherein said method further comprising:~~
determining the list of drivers, at least in part, by scanning the fabric for I/O

controllers.

A1

Claim 17 (Currently Amended): The computer readable medium ~~of~~as
claimed in claim 13, wherein said method further comprising:
obtaining the list of drivers from a storage.

Claim 18 (Currently Amended): The computer readable medium ~~of~~as
claimed in claim 13, wherein:
receipt of the response confirms that a subnet manager has finished
initializing a local channel adapter port, a remote channel adapter port, and
forwarding tables in intervening switches within the interconnection fabric that will be
used in communication between a driver to be loaded and the I/O controller that
corresponds to the driver.

Claim 19 (Currently Amended): The computer readable medium ~~of~~as
claimed in claim 13, wherein said method further comprising:
notifying a fabric control driver when local channel adapter ports in a host are
configured and ready for fabric connectivity.

Claim 20 (Currently Amended): ~~An apparatus,~~A network comprising:
an interconnection fabric;
a host comprising an operating system and at least a host-fabric adapter
provided to interface with the interconnection fabric, a fabric, and an I/O enclosure

within a cluster; and

A) an I/O enclosure including at least one fabric-attached I/O controller assigned to the host and attached to the interconnection fabric;

a fabric control driver within the host;

an I/O controller within the I/O enclosure and assigned to the host;

the wherein the operating system within the host is configured to determine if the host-fabric adapter has been initialized for fabric communication and, then to load a driver that corresponds to the fabric-attached I/O controller assigned to the host, into the host for communication with the fabric-attached I/O controller, via the interconnection fabric;
fabric control driver determining whether a communication channel to the I/O controller exists before loading into the host a driver that corresponds to the I/O controller.

Claim 21 (Currently Amended): The apparatus of network as claimed in claim 20, further comprising wherein:

a local channel adapter within the host, the interconnection fabric includes one or more intervening switches having forwarding tables for forwarding data from the host to the fabric-attached I/O controller; and in intervening switches, and a remote channel adapter within the I/O enclosure,

wherein the operating system includes a fabric control driver configured to provide bus abstraction and cause the loading of the driver for the corresponding fabric-attached I/O controller, including determining whether determines the existence of a communication channel to the fabric-attached I/O controller exists

A1
before loading into the host the driver that corresponds to the fabric-attached I/O controller while a subnet manager is initializing the local channel adapter, the forwarding tables in intervening switches, and the remote channel adapter.

Claim 22 (Currently Amended): The apparatus of network as claimed
in claim 21, further comprising:
a channel adapter driver in the host for the local channel adapter,
one or more ports on the local channel adapter,
wherein the channel adapter driver notifying the fabric control driver is notified
when the local channel host-fabric adapter ports are configured and ready for fabric connectivity.

Claim 23 (Currently Amended): The apparatus of network as claimed
in claim 22, wherein: the fabric control driver is configured attempting to use the local channel host-fabric adapter to communicate with the I/O enclosure, via the interconnection fabric, only after the local channel host-fabric adapter is initialized and ready for fabric connectivity.

Claim 24 (Currently Amended): The apparatus of network as claimed
in claim 22, wherein: the fabric control driver is configured to cause causing the loading of a the driver into the host, only after the local channel host-fabric adapter is initialized and ready for fabric connectivity.

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Claim 25 (Currently Amended):

The apparatus of network as claimed

in claim 20, wherein: the fabric control driver is configured to send sending a
verification message to the I/O enclosure, via the interconnection fabric.
